

TITLE: SYSTEM AND METHOD FOR DETECTION ENHANCEMENT PROGRAMMING  
INVENTORS NAME: James O. Gilkerson et al.  
SERIAL NO.: 279.209US2

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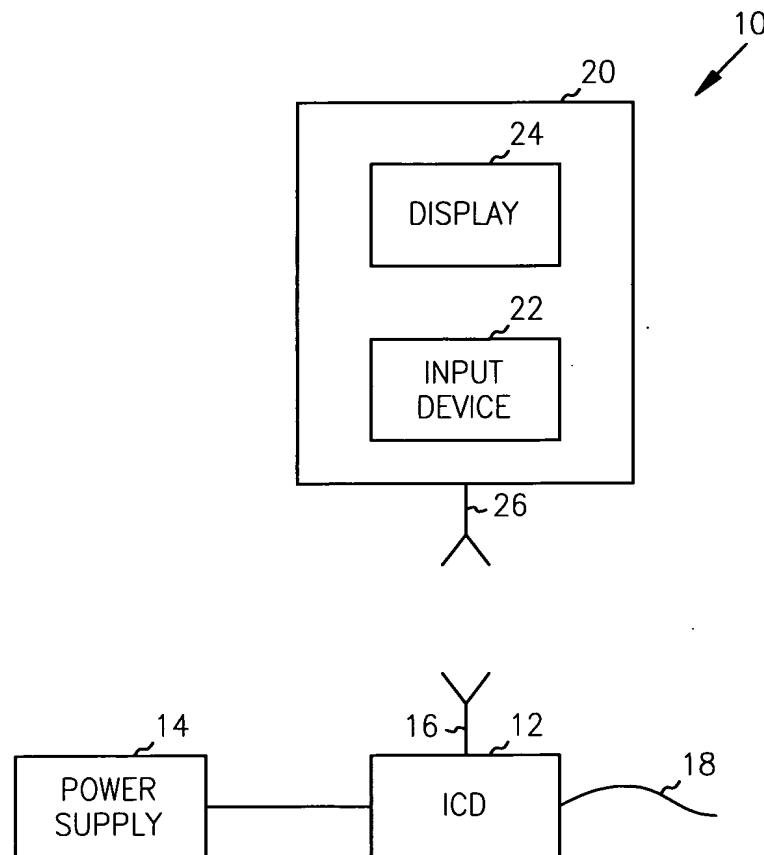


FIG. 1

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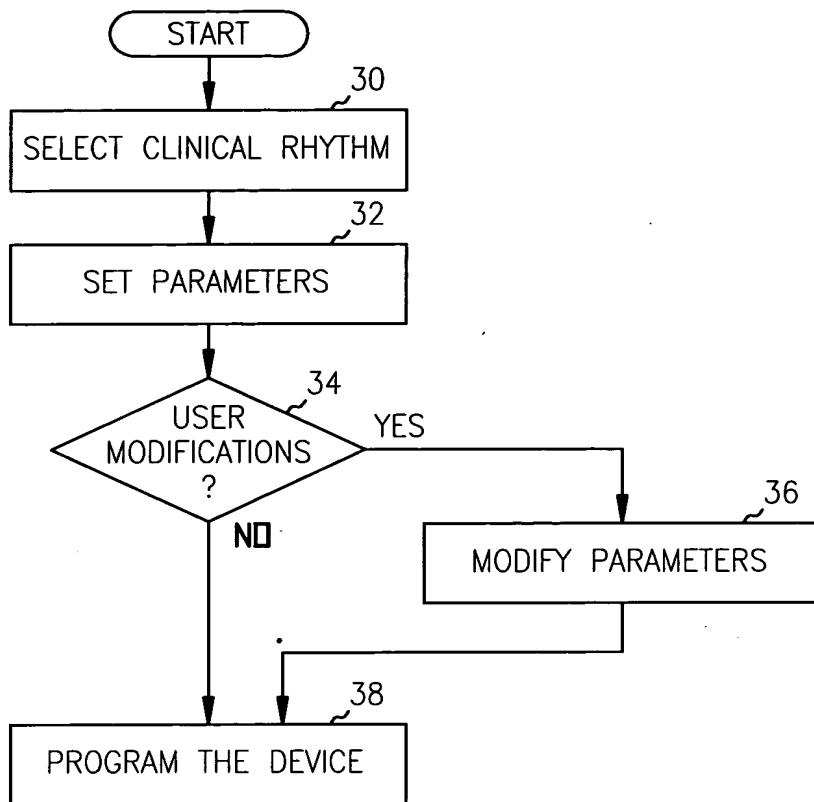


FIG. 2

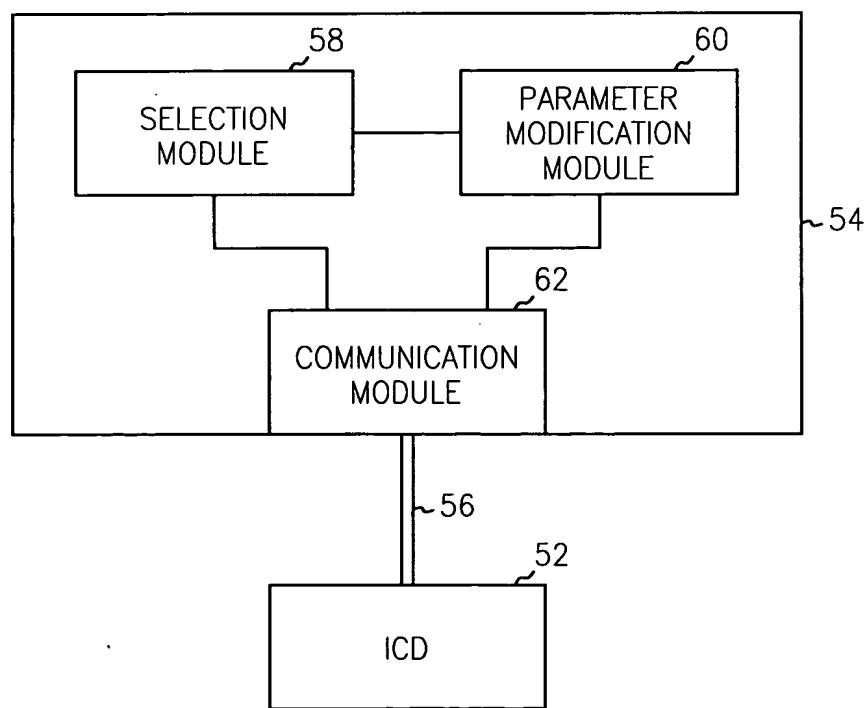


FIG. 3

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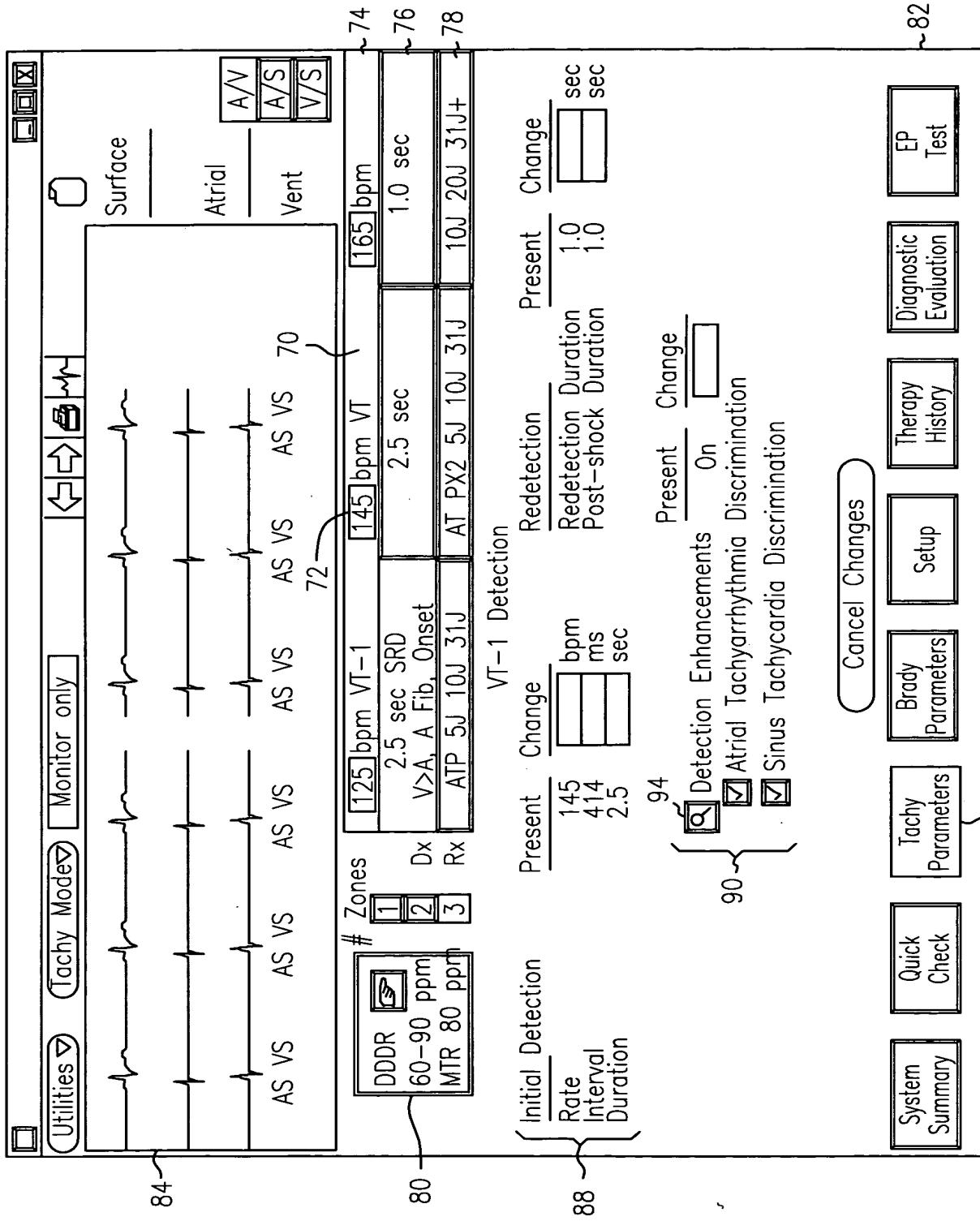


FIG. 4

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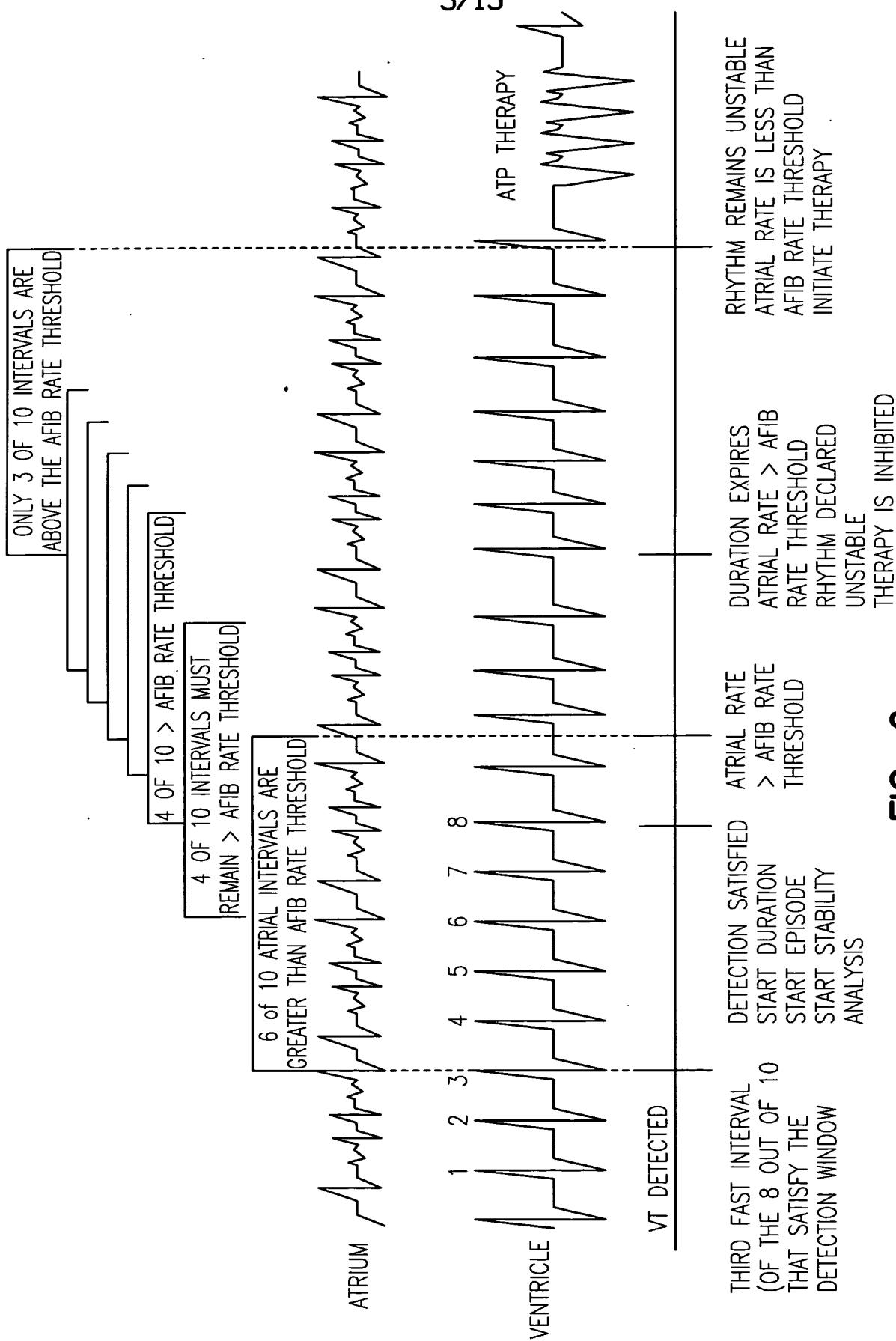
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	VT-1 ZONE	VT ZONE	VF ZONE
1-ZONE CONFIGURATION			NONE
2-ZONE CONFIGURATION		V RATE > A RATE AFIB RATE THRESHOLD STABILITY ONSET SRD SHOCK IF UNSTABLE a	NONE
3-ZONE CONFIGURATION		V RATE > A RATE AFIB RATE THRESHOLD STABILITY ONSET SRD	NONE

a. SHOCK IF UNSTABLE CANNOT BE PROGRAMMED ON IN THE SAME ZONE AS OTHER DETECTION ENHANCEMENTS THAT ARE PROGRAMMED TO INHIBIT THERAPY (ONSET, STABILITY, AND AFIB RATE THRESHOLD)

FIG. 5

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**FIG. 6**

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DETECTED RHYTHM	AFIB RATE THRESHOLD WITH STABILITY
GRADUAL, UNSTABLE A > AFIB RATE THRESHOLD	INHIBIT UNTIL V > A OR SRD (IF ON)
GRADUAL, UNSTABLE A < AFIB RATE THRESHOLD	INHIBIT UNTIL V > A OR SRD (IF ON)
SUDDEN, UNSTABLE A > AFIB RATE THRESHOLD	INHIBIT UNTIL STABLE, V > A OR SRD (IF ON)
SUDDEN, UNSTABLE A < AFIB RATE THRESHOLD	TREAT IMMEDIATELY AT END OF DURATION <sup>a</sup>
GRADUAL, STABLE A > AFIB RATE THRESHOLD	TREAT IMMEDIATELY AT END OF DURATION <sup>b</sup>
GRADUAL, STABLE A < AFIB RATE THRESHOLD	INHIBIT UNTIL V > A OR SRD (IF ON)
SUDDEN, STABLE A > AFIB RATE THRESHOLD	TREAT IMMEDIATELY AT END OF DURATION
SUDDEN, STABLE A < AFIB RATE THRESHOLD	TREAT IMMEDIATELY AT END OF DURATION

- a. IF V RATE > A RATE IS PROGRAMMED ON AND IS FALSE, THEN THERAPY WILL BE INHIBITED IF THE RHYTHM IS UNSTABLE
- b. IF V RATE > A RATE IS PROGRAMMED ON AND IS FALSE, THERAPY WILL STILL BE INITIATED BECAUSE THE RHYTHM IS DECLARED STABLE

**FIG. 7**

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DETECTED RHYTHM	POSSIBLE COMBINATIONS	POSSIBLE COMBINATIONS
	ONSET AND STABILITY a	ONSET OR STABILITY
GRADUAL, UNSTABLE	INHIBIT UNTIL V > A OR SRD (IF ON)	INHIBIT UNTIL RHYTHM BECOMES STABLE, V > A, OR SRD (IF ON)
GRADUAL, STABLE	INHIBIT UNTIL V > A OR SRD (IF ON)	TREAT IMMEDIATELY AT END OF DURATION
SUDDEN, UNSTABLE	INHIBIT UNTIL RHYTHM BECOMES STABLE, OR V > A, OR SRD (IF ON)	TREAT IMMEDIATELY AT END OF DURATION
SUDDEN, STABLE	TREAT IMMEDIATELY AT END OF DURATION	TREAT IMMEDIATELY AT END OF DURATION

a. THE AND COMBINATION IS THE NOMINAL SETTING WHEN BOTH ARE ENABLED

**FIG. 8**

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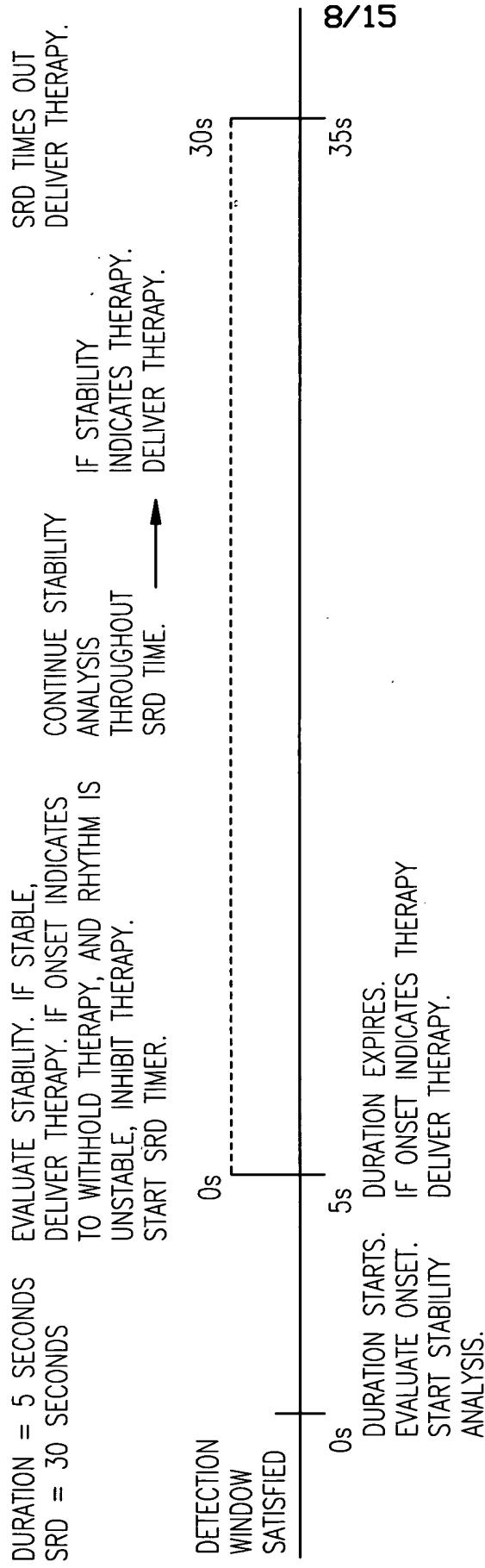


FIG. 9

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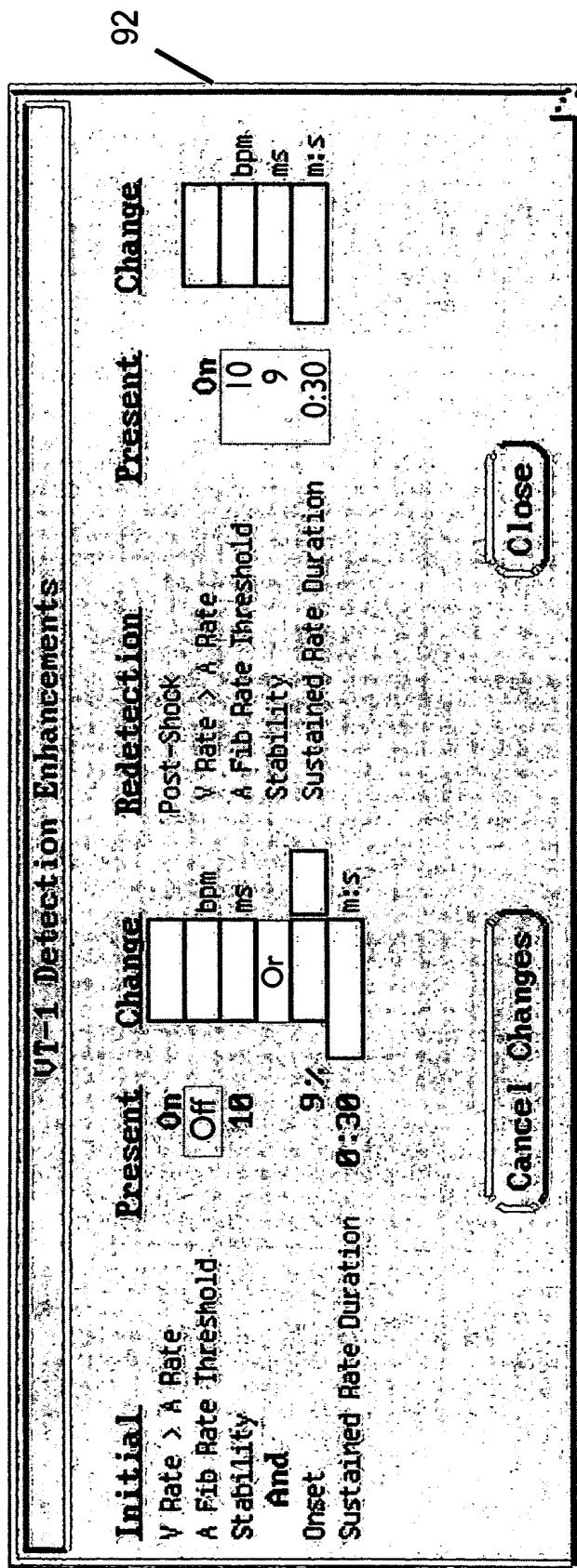


FIG. 10

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RHYTHM DISCRIMINATION AVAILABLE PER ZONE			
	VT-1 ZONE	VT ZONE	VF ZONE
3-ZONE CONFIGURATION	atrial tachyarrhythmia sinus tachycardia	polymorphic vt	none
2-ZONE CONFIGURATION		atrial tachyarrhythmia sinus tachycardia or polymorphic vt	none

FIG. 11

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PARAMETER	ATRIAL TACHYARRHYTHMIA	SINUS TACHYCARDIA	POLYMORPHIC VT
V > A	ON	ON	
A FIB RATE THRESHOLD	200 MIN <sup>-1</sup>		
STABILITY (INHIBIT)	10 ms		
ONSET (INITIAL DETECTION ONLY)		9 %	
SRD	INITIAL REDETECTION	0:30 MINUTES:SECONDS 0:15 MINUTES:SECONDS	0:30 MINUTES:SECONDS
SHOCK IF UNSTABLE			30 MS

FIG. 12

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PARAMETER	ATRIAL TACHYARRHYTHMIA	SINUS TACHYCARDIA	POLYMORPHIC VT
STABILITY (INHIBIT)	30 ms		
ONSET (INITIAL DETECTION ONLY)		9 %	
SRD	INITIAL REDETECTION	0:30 MINUTES:SECONDS 0:15 MINUTES:SECONDS	0:30 MINUTES:SECONDS
SHOCK IF UNSTABLE			30 MS

FIG. 13

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Initial	Present	Change
Rate	145 bpm	sec
Interval	415 ms	sec
Duration	2.5 sec	

Redetection	Present	Change
Redetection Duration	1.0 sec	
Post-shock Duration	1.0 sec	

Present	Change
On	

Detection Enhancements

Atrial Tachyarhythmia Discrimination

Sinus Tachycardia Discrimination

Cancel Changes

FIG. 14

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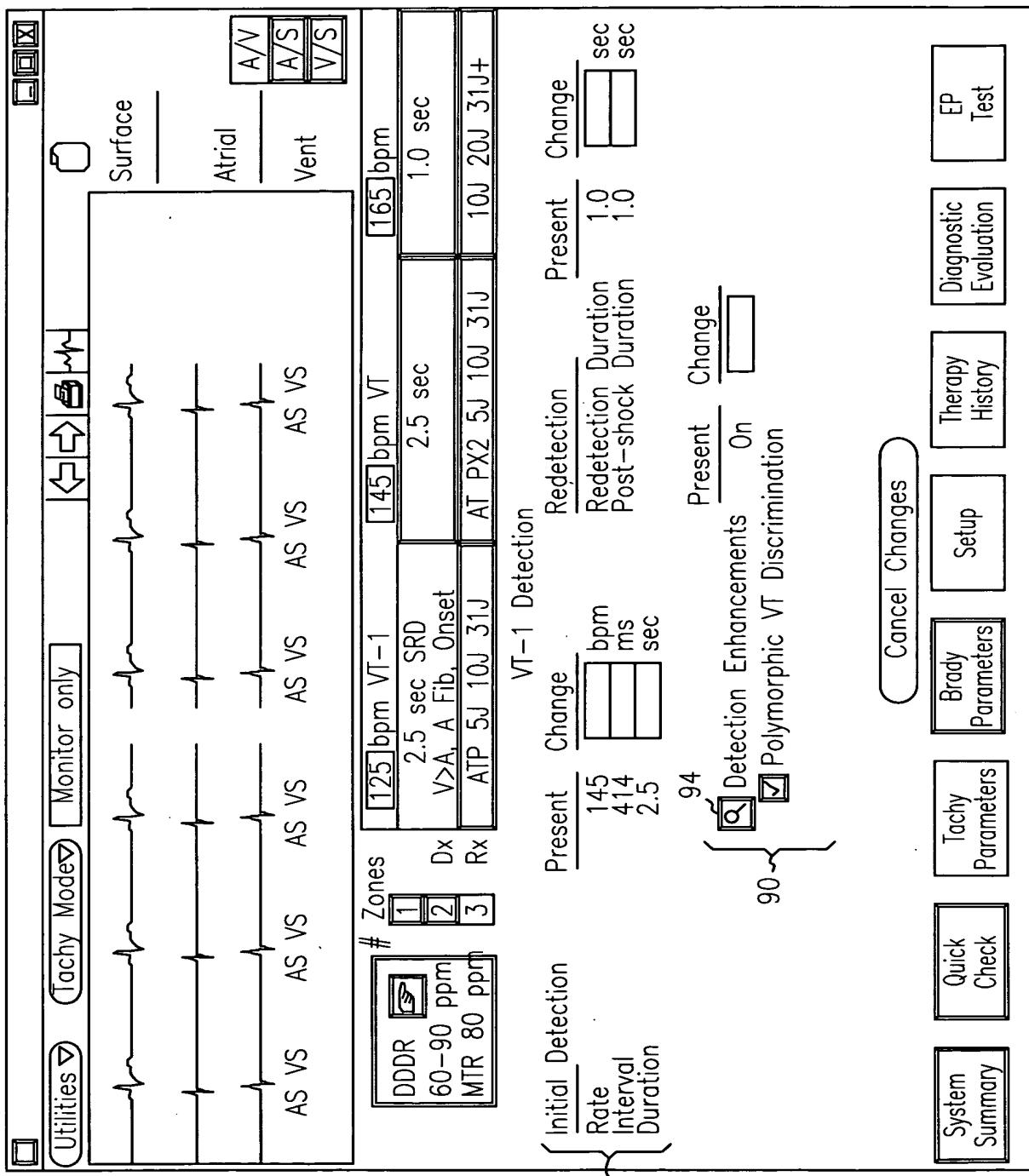


FIG. 15

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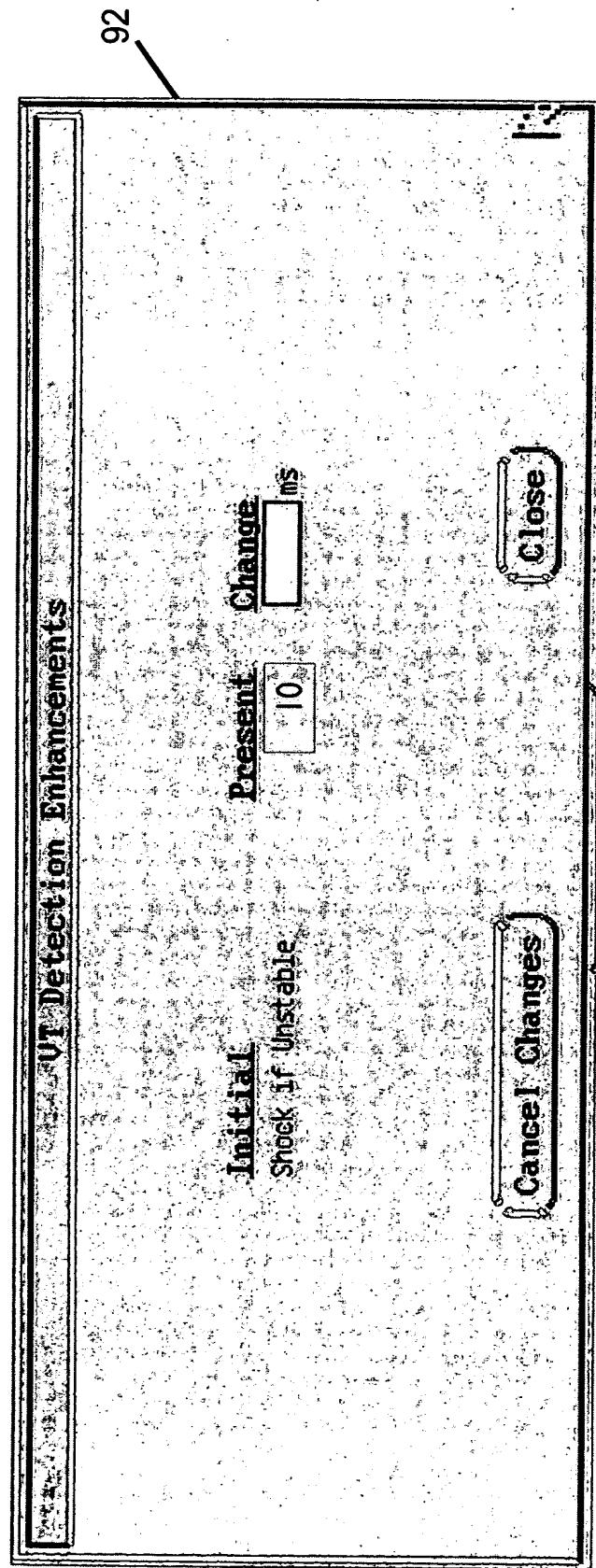


FIG. 16